

# Corporate Strategies in the Smartphone Era - The Case of Garmin Ltd.\*

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## 《目 次》

I. Introduction	IV. Turnaround: Diversification
II. History of Garmin Ltd.	of business using core
III. Crisis of Garmin Ltd.	capabilities
	V. Challenges of Garmin Ltd.

## I. Introduction

Devices such as MP3 player, digital camera, digital camcorder, PMP (Personal Media Player), PDA (Personal Digital Assistant), and handheld game consoles have one thing in common. All of the above-mentioned products newly emerged in the early 2000s due to the development of digital technology and the trend of small-sized electronics, but the emergence of iPhone in 2007 depressed those markets. The navigation market, which has been Garmin's flagship, also faces the same crisis due to the emergence of smartphones.

Since launching its first vehicle-mounted navigation product in 1997, Garmin's navigation business has grown to become the company's flagship business, accounting for 73 percent of its total sales, with \$2.5 billion in sales as of 2008. However, with the advent of smartphones with GPS, 3G data communications, and always-on digital

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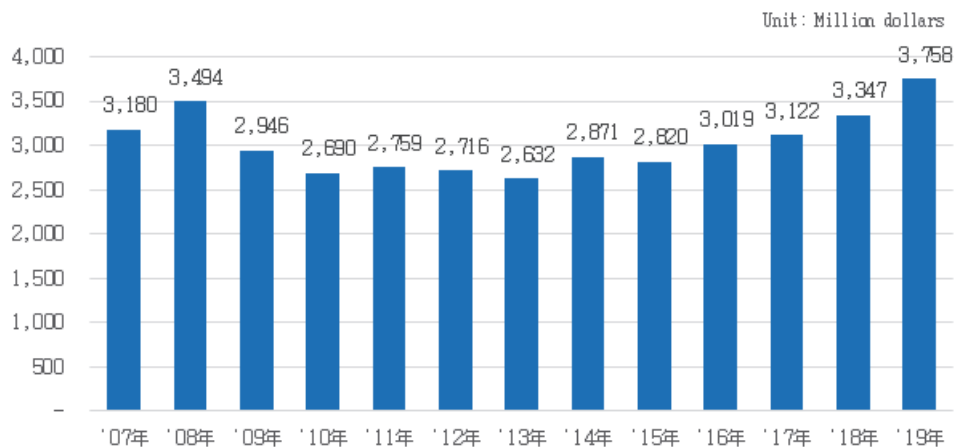
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maps, the car navigation market is facing a sharp decline.

Garmin's business, which peaked at \$3.5 billion in total sales in 2008, falls 6 percent annually to \$2.6 billion in total sales in 2013. In particular, the fact that sales in the vehicle navigation sector, which used to be a core business, have halved in five years from \$2.5 billion in 2008 to \$1.3 billion in 2013, shows how the emergence of smartphones has affected negatively on Garmin.

However, as shown in the figure 1 below, Garmin's business has grown again by 6% annually to reach \$3.8 billion in sales in 2019, after hitting a record low of \$2.6 billion in 2013.



〈Figure 1) Sales of Garmin ('07 ~ '19)

How could Garmin recover from the crisis due to smartphone market? Through the analysis of Garmin's case, this study seeks to find ideas on how existing strong players who are facing a crisis due to disruptive innovations in the market have been able to survive and regain competitiveness by utilizing their existing capabilities.

## II. History of Garmin Ltd.

Garmin, which is co-founded by Gary Burrell and Min H. Kao in 1989, is a company based on the Global Positioning System (GPS). As the company named after the

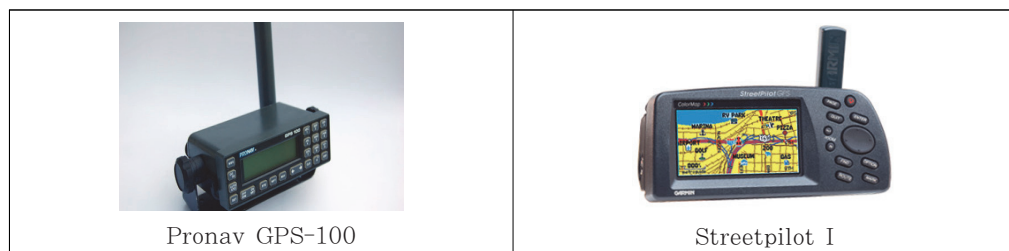
co-founders, it was a startup that began with two engineers who believed that GPS technology would change the world.

In the 1970s, GPS technology developed by U.S. Department of Defense for military purposes, and it was opened to the private sector in 1984. Gary and Min produced GPS navigation for small civilian aircraft and ships. Subsequently, it pioneered the era of portable GPS devices by making GPS devices that can be used in outdoor areas such as mountains.

The decisive factor in Garmin's rise to become a leader in the manufacturing of GPS devices was the Gulf War that broke out in 1991. The use of Garmin's "ProNav" product, purchased by some of the U.S. soldiers who fought in the Gulf War instead of GPS devices paid by the military, has raised the company's reputation. With Garmin's products gaining a reputation for being more accurate than military supplies, the Department of Defense also began to purchase Garmin's GPS technology after the Gulf War, growing into a blue-chip company with annual sales of \$100 million in 1995.

Garmin combines GPS technology with digital maps to launch vehicle navigation in 1997. Garmin's first navigation product, "Streetpilot I," gains sensational popularity, topping the U.S. market share. Garmin expanded its navigation product line to 50 in the 2000s and faced a second leap in the business, selling more than 3 million navigation devices in more than 100 countries around the world.

Garmin's sales in 2000 was \$350 million which has increased more than tripled compared to five years ago, and its net profit ratio also is increased more than 30%. Based on these business results, it has grown into one of the world's largest GPS-based companies.



〈Figure 2〉 Initial product of Garmin Ltd.

### III. Crisis of Garmin Ltd.

Garmin has grown into a big company with a market capitalization that is higher than General Motors. In the following year, however, Garmin's share price plunged -87% due to advances in technology, including the emergence of smartphones and the convergence of automotive electronics. Garmin, who had led the market based on specialized technology, faced a crisis due to disruptive technological innovations from other companies.



〈Figure 3〉 Stock price trend of Garmin Ltd. (2000~2019)

The iPhone 3G provided users with features such as music, phone, game, and web, while also providing GPS capabilities, allowing them to operate on a portable navigation system by simply installing a map application. Despite Garmin's relatively high GPS accuracy, the superior position of vehicle navigation has been gradually diluted, especially with the 2008 financial crisis, further reducing the number of consumers buying Garmin devices.

Moreover, Garmin's position is significantly weakened as Google, a latecomer in the smartphone segment, launched the Android OS in 2009 and added Turn-by-turn navigation to Google Map as a feature to counter the iPhone. Garmin's car business faced a severe crisis.

#### IV. Turnaround: Diversification of business using core capabilities

The founders, Gary and Min, are said to have often told executives and employees to “challenge the hardest.” Despite the crisis with the introduction of smartphones, Garmin did not give up and tried to actively diversify his business.

In fact, the wearable GPS business was a long-cherished project for Garmin, but it was a field where commercialization was limited due to limitations in technology. In 2003, it launched its first watch-like product Forerunner 101, but the result was not successful due to its burdensome size to wear around the wrist. However, as running enthusiasts show interest in Garmin’s GPS technology that allows them to accurately measure the distance they run, Garmin confirms their potential for the wearable market.

Undaunted by the initial failure, Garmin did not stop investing in the wearable business, and after three years of further development, it launched a thinner and lighter wristwatch-type smartwatch called Forerunner 205. Unlike low-cost products with simple functions such as measuring the number of steps, the company has put in a large number of advanced functions based on GPS technology, and has opened the users’ community site “Garmin Connect”, leading to a good response from athletic enthusiasts.



〈Figure 4〉 Initial Wearable products of Garmin Ltd.

Because of the continued investment on wearable devices, Garmin was able to quickly transform its flagship portfolio into fitness and outdoor areas.

Garmin not only led the early wearable market, but also effectively responded to the new entry of IT companies such as Samsung and Apple, and succeeded in maintaining their unique position in the industry. Despite Samsung's entry into the market with the launch of Galaxy Gear in 2013 and Apple's Apple Watch in 2014, Garmin successfully grew with a high operating profit margin (20-25% over the past five years) and an average selling price (\$298) based on Garmin's long-established "A vast portfolio of products tailored to the needs of segmented customers."

Meanwhile, Garmin have established a solid user community with Connect app and the web. Users gathered through Garmin Connect and their accumulated data has become a key competitive advantage to differentiate Garmin's position as competition grows in the wearable market.

Targeting athletes and athletic enthusiasts as key customers enabled the gathering of new function proposals, problem reporting, and new idea from enthusiastic users through Garmin Connect, and the convergent proposals could be used to enhance, add, and improve product portfolio. In addition, the location and exercise information of various users accumulated in Garmin Connect will be used to improve the accuracy of device sensors, add and improve new exercise programs and coaching programs, and continue to contribute to Garmin's function and performance differentiation.



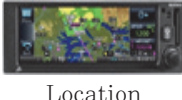







〈Table 1〉 Comparison of smartwatches

		Garmin	Apple	Samsung
Customers	Main customers	Sports specialization	iPhone users	Galaxy users
Products	# of product line	56	8	3
Functions	# of Activity/ Exercise	132	27	39
Apps	Health app	Garmin Connect	Apple Health	Samsung Health
Functions	electrocardiogram	X	O	X
	oxygen saturation	O	O	X
	fall detection	O	O	X
Battery	time	2 weeks	1 day (18 hours)	4 days (95 hours)

That is, Garmin Connect has enabled Garmin to have a flexible and specialized development response capability to respond to various customer needs in the mass market by utilizing opinions and data collected from early enthusiasts.

In addition to the wearable business (fitness & outdoor), Garmin expanded its business by focusing resources on mission critical aviation and ships that require high-precision location sensing technology. Typical products include satellite navigation devices, fish finders, and sea navigation used in small private aircraft and ships, which maintain a market share of more than 80 percent and generate stable profits.

The declining navigation system for vehicles is also trying to change its focus to a new growth. The existing navigation business, which used to be sold in the aftermarket, is to be pivoted for vehicle manufacturers. Garmin plans to deliver navigation and infotainment systems to BMW, Ford, and China's Geely Corp since 2020. In addition, the company is also expanding its revenue model in the service sector by generating additional profits through navigation maps and software licensing, and investing in technologies such as ADAS (advanced driver assistance system) and augmented reality to prepare for the advent of the future era of autonomous driving.

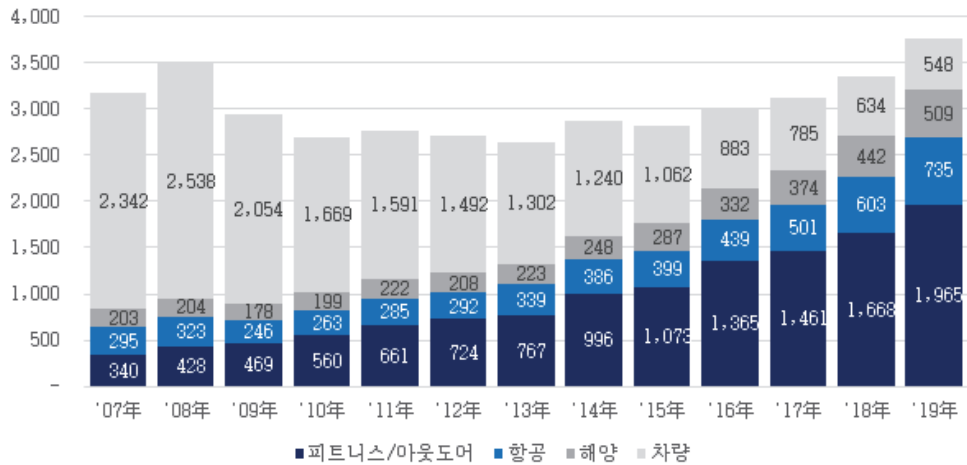
Fitness	Outdoor	Aviation	Ship	Vehicle
 Smartwatch	 Handheld GPS	 Location Information Transmitter	 electronic chart display	 Infotainment
 Indoor cycle	 Pet trainer	 Dashboard display	 Radar/Sonar	 Navigation

Source: [www.Garmin.com](http://www.Garmin.com)

〈Figure 5〉 Representative product line by business segment of Garmin Ltd.

Garmin's sales by business segment can easily show the results of the business diversification (see Figure 6). Garmin's business portfolio, which was a vehicle

navigation-oriented business in 2008, is evenly distributed to fitness/outdoor, aviation and ocean, and has shown robust growth in all sectors except vehicles.



Source: Garmin 10K (www.statista.com)

〈Figure 6〉 Sales by business segment of Garmin Ltd.

Garmin's current business is focused on various areas, including fitness, outdoor, aviation, ships, vehicles, etc., but the essence of the business is the same: responding to user needs requiring precision through linkage of sensing technology and digital data. Unlike other portable electronics companies, Garmin's success in turning around the business was based on innovative activities to firmly define the core capabilities of the business and discover new cases and add new features based on the underlying technology.

## V. Challenges of Garmin Ltd.

Garmin's remarkable reversal in the mid- to late 2010s can also be seen through Garmin's market capitalization. Even considering the price adjustment caused by the COVID-19 earlier this year, Garmin's market capitalization is now \$15.5 billion, contrary to other wearable companies that ended their business in takeover or bankruptcy after IT companies such as Apple and Samsung joined the wearable market.



However, there are market concerns about how long Garmin will be able to maintain its current technological edge and user loyalty if competition intensifies as IT companies with huge capital such as Apple, Samsung and Google continue to expand their investments in the wearable market. In addition, though the market for aviation, oceans, and others generates stable high profits, it is necessary to consider whether the business focus is too dispersed or not. Although the technical foundation of GPS is the same, it seems inevitable that business capabilities will be dispersed into a number of business groups, as fitness and vehicle infotainment, aviation and sea industries have completely different target customer and sales channels.

While continuing to strengthen the core competency of location-based technology and product development in order to maintain the competitiveness of the business, Garmin could run the business efficiently by taking only appropriate profits through technology licensing for low-income/low-growth product groups.

In addition, attempts to expand the current business model into software and service businesses are also needed. It is a remarkable change that Garmin recently acquired a training program/service company for cyclists and enthusiasts called Tacx. Similar to American spinning/cycle training service provider Peloton who has achieved great success by launching a subscription-type service combining hardware and content, Garmin may have an opportunity to strengthen its service platform if its community and brand are combined with the technology and reputation of Tacx.

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